

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference H2081-01	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2004/009259	International filing date (day/month/year) 24.06.2004	Priority date (day/month/year) 30.09.2003
International Patent Classification (IPC) or national classification and IPC G02B13/16		
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

- a. ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:
- ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- ☒ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))

_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☒ the claims, nos. 1, 4-7, 20, 23
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	13-14, 21-22	YES
	Claims	1-12, 15-20, 23-28	NO
Inventive step (IS)	Claims	21-22	YES
	Claims	1-20, 23-28	NO
Industrial applicability (IA)	Claims	1-28	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP 2003-255226 A (COSINA CO., LTD.), 10 September 2003, entire text, all drawings; claim 1 in particular

Document 2: JP 2003-202492 A (Matsushita Electric Industrial Co., Ltd.), 18 July 2003, entire text, all drawings; claim 2 and paragraphs [0075] and [0099] in particular

Document 3: JP 2001-42211 A (Canon Inc.), 16 February 2001, entire text, all drawings; claims 1, 14 and 15, and paragraphs [0073] to [0076] in particular

Document 4: JP 2003-202493 A (Canon Inc.), 18 July 2003, entire text, all drawings

Document 5: JP 2003-156683 A (Sony Corp.), 30 May 2003, entire text, all drawings

Claims 1 to 12, 15 to 20 and 23 to 28

Document 1 and document 2 disclose technical content pertaining to projection lenses whereby the image that is formed upon a spatial light modulation element is enlarged and projected upon a screen, wherein a stop is provided within the aforementioned projection lens and said stop is decentered relative to the optical axis.

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

In addition, document 1 and document 2 both indicate that a portion of the aforementioned projection lens is moved during the focusing process, and the lens group for carrying out the aforementioned focusing process is not limited to a specific lens or lens group in the invention that is disclosed in document 2.

Meanwhile, document 3 and document 4 disclose projection lenses whereby the image that is formed upon a spatial light modulation element is enlarged and projected upon a screen, wherein a stop is provided within the aforementioned projection lens and a lens group which is further to the side of the spatial light modulation element than the side of the aforementioned stop is moved during the focusing process.

Such being the case, the inventions set forth in claims 1 to 12, 15 to 20 and 23 to 28 lack novelty in the light of document 2, and do not involve an inventive step in the light of documents 1 to 4.

Claims 13 and 14

A person skilled in the art could simply select suitable lens configurations for each of the lens groups that constitute the projection lens, as appropriate.

Such being the case, the inventions set forth in claims 13 and 14 do not involve an inventive step in the light of documents 1 to 4.

Claims 21 and 22

The feature wherein the specific lens configurations of the lens groups that constitute the projection lens set forth in claim 13 are required to conform to conditional formulas (8) and (9) set forth in

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claim 21, which pertain to the conjugate lens that is included within the second lens group, and the feature wherein the specific lens configurations of the lens groups that constitute the projection lens set forth in claim 13 or 14 are required to conform to conditional formulas (10) and (11) set forth in claim 22, which pertain to the conjugate lens that is included within the third lens group, are not disclosed or suggested in any of documents 1 to 5, and it would not have been easy for a person skilled in the art to derive the features in question therefrom.

Such being the case, the inventions set forth in claims 21 and 22 are novel and involve an inventive step in relation to documents 1 to 5.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box I.4

Claim 1, as amended by the amendment forms submitted on 12 October 2004, sets forth a feature wherein the "front stop is disposed within the plane defined by the aforementioned optical axes that extend to the front and the rear of the aforementioned means for bending the light path, and is decentered in the direction approaching the aforementioned front lens group." However, the disclosures in the description of the present application as originally filed indicate that in cases when a means for bending the light path is present between the front lens group and the rear lens group of the projection lens, [the front stop] is arranged so as to be parallel to the plane defined by the optical axes (9 and 10) which extend to the front and the rear of the planar mirror (8) that serves as the means for bending the light, and is decentered in a direction that is orthogonal relative to the optical axis (10), as is set forth on page 37 and the like of the description; therefore, amended claim 1, which does not include the feature that is set forth in the description of the present application as originally filed (i.e., the feature wherein [the front stop] is decentered in a direction that is orthogonal relative to the optical axis (10), or, to use the technical terms that are defined in the disclosure of claim 1, the feature wherein [the front stop] is decentered in a direction that is orthogonal relative to the optical axis of the rear lens group), goes beyond the scope of the disclosures in the

Supplemental Box

description of the present application as originally filed.

Furthermore, with regards to the feature wherein [the front stop] is decentered in the direction approaching the front lens group during the decentering process, the features pertaining to the aforementioned decentering direction are not directly related to the miniaturization of the invention by providing a bending means so that it is possible to decrease the size of the space for bending the light path; instead, the description specifically indicates that the technical significance and effect of the aforementioned decentering direction is that as a result of configuring so that the decentering direction for the stop of the projection lens is a direction that results in an increase in the angle that is formed by the optical axis (198) of the illumination light and the optical axis (199) of the projection light, it is possible to configure so that the projection is a frontal projection and it is difficult for the optical components such as the projection lens and the planar mirror to interfere with one another, as is set forth on lines 20 to 25 of page 44. Furthermore, the explanation in question conforms to the problem that the invention set forth in the present application is intended to resolve.

Such being the case, even if the decentering direction happened to be the direction approaching the front lens group, said configuration would have been achieved as a result of merely ensuring that the abovementioned decentering direction for the stop of the projection lens conforms to the prerequisite that said decentering direction be a direction that results in an

Supplemental Box

increase in the angle that is formed by the optical axis (198) of the illumination light and the optical axis (199) of the projection light. As a result, the disclosure of claim 1, which does not specify the positional relationship of the members in the projection lens and the illuminating optical system (said illuminating optical system being entirely omitted from claim 1) and has been amended so as to only set forth a configuration wherein [the front stop] is decentered in the direction approaching the front lens group without being required to maintain the aforementioned relationship, includes a technical feature that goes beyond the scope of the disclosures in the description of the present application as originally filed.